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Studebaker, John W. Self-Teaching Arithmetic, Bk. 2

Second Book

Self-Teaching Arithmetic

Self-Study

Self-Test

Self-Check

By John W. Studebaker

Vice President, Scholastic Magazines
U.S. Commissioner of Education (1934-1948)

and Gordon Studebaker

Western Regional Director, Scholastic Magazines

Illustrated by PAUL GRANGER

KNOWLEDGE MASTER BOOKS

WEST BLVD.

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Patent Nos. 2,789,370; 2,834,124

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How to Use This Book

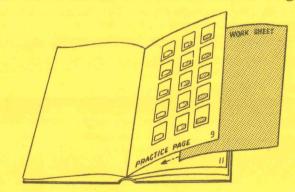
This is a new kind of book designed to enable a child to learn at his own rate of speed. With it he can study the basic arithmetic facts, test his knowledge of these facts, and correct his test all by himself. The child will, of course, need guidance in the beginning, until he has learned the mechanics of the book. Once he understands how to work with the book, however, he will find it easy to use — and fun.

The book includes 32 pairs of pages. One page in each pair — the Practice Page — contains 15 facts with apertures ("windows") below them. The answers for the facts show through the windows. On the Study Pages facing the Practice Pages are illustrations that will help the child visualize the basic arithmetic facts. (You will find it helpful to turn to the pages cited as you read these directions.)

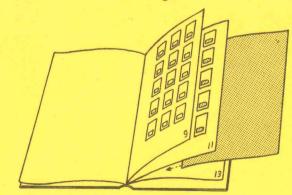
This is how the child should use the Knowledge Master Book:

- 1) He studies the facts and their answers until he thinks he knows the answers to all of the facts on the Practice Page.
- 2) He tests himself. He puts his work sheet (a piece of paper or a Magic Slate) directly under the Practice Page. If he has been studying the facts on page 9, for instance, he puts his work sheet under page 9 that is, between pages 10 and 11 and on top of page 11. The answers will then be hidden. If the paper he uses is not opaque enough to hide the answers, he should use more than one sheet. He writes the answers through the windows directly below the facts.
- 3) He checks his work. When he has written the answers to the facts on page 9, he puts the work sheet under page 11, on top of page 13. Both his answers and the correct answers will show through the windows below the facts. He checks to see where he is making mistakes. He repeats this process until he answers correctly all of the facts on the Practice Page. Then he goes on to the next Practice Page.

On each of the Practice Pages you will find directions telling where the child should put his work sheet each time. A good rule for the child to remember is that when he is testing himself, he will always put his work sheet under the Practice Page.

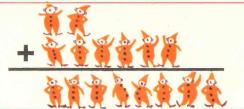


When he is **checking** his answers, he will always put his work sheet under the leaf below the Practice Page.



WHEN WE ADD

This is a plus sign: +
It tells us to add.
When we add
we put things together.



2 clowns plus 6 clowns are

8 clowns.

We add to find out how many there are altogether.

How many birds are there altogether?

B

C





4 + 5 ?

We add to find out how many there are in all.

How many ducks are there in all?



How many children are in the band?



We can write this fact

this way $\longrightarrow \frac{+ 6}{10}$

or like this: 4 + 6 = 10

This is an **equal** sign: = It means **equals**.





4 + 7 = 11 can be read 4 plus 7 equals 11.

WHEN WE SUBTRACT

This is a minus sign: —

It tells us to subtract

or take away.



We can write this fact
this way —→ ___

or like this: 4 - 2 = 2

We subtract to find out how many are left.

How many ponies are left?



We subtract to find the difference between two things.

C

D

E



How much taller is Joe than Jane?

$$5 - 3 = ?$$

We subtract to find the difference between two groups of things.



How many more ₹s are there than ₹s?

$$8 - 5 = ?$$

We subtract to find out how many more are needed.

10 children want to eat ice cream. How many more § s are needed?





PUTTING THINGS TOGETHER

M

TAKING THINGS AWAY

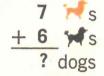
ABOUT 13

This page is for study only. Study the pictures below as you look at the facts on page 9.





Α



How many dogs are there altogether?



6 ₩s + 7 %s ? dogs

В

7 dogs are pink. How many dogs are black?

13 - 7 = ?



6 dogs went away. How many dogs are left in the ring?

$$13 - 6 = ?$$

C



How many horses are there in all?

5 s + 8 s ? horses

D

8 horses are black. How many are brown?

13 - 8 = ?



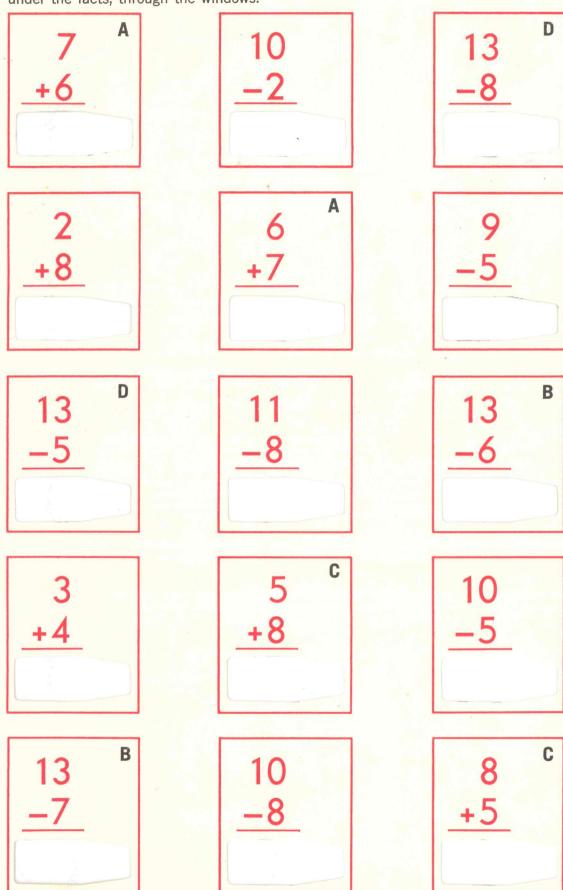
13 horses

5 horses are going away. How many will be left?



13 - 5 = ?

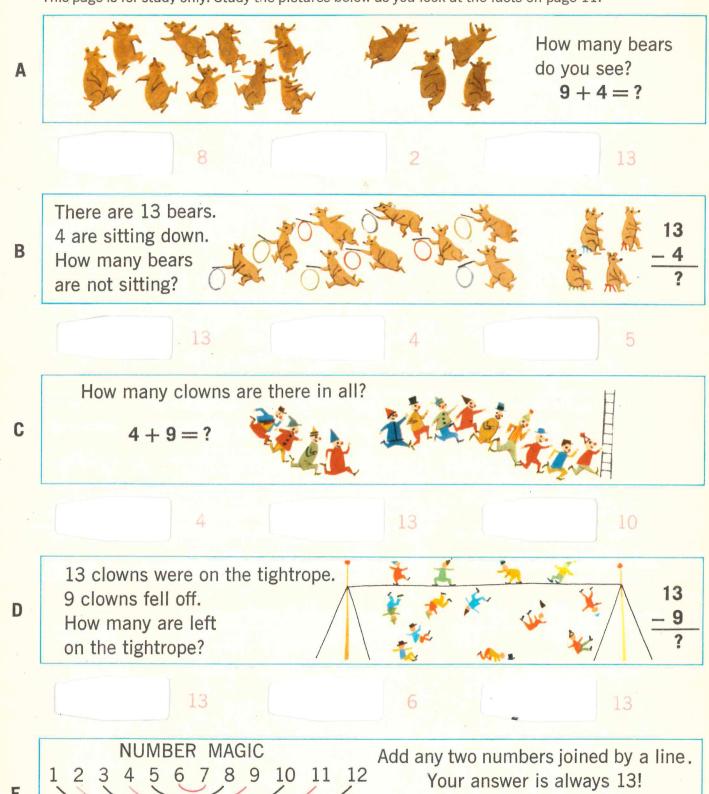
2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 11. See if your answers are the same as the little red numbers in the windows.

MORE ABOUT 13

This page is for study only. Study the pictures below as you look at the facts on page 11.

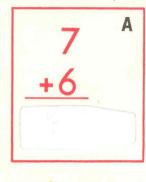


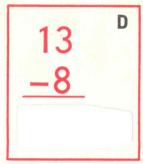
NUMBER MAGIC

1 2 3 4 5 6 7 8 9 10 11 12

Your answer is always 13! 1+12=13 3+10=13 5+8=13 2+11=13 4+9 =13 6+7=13

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.

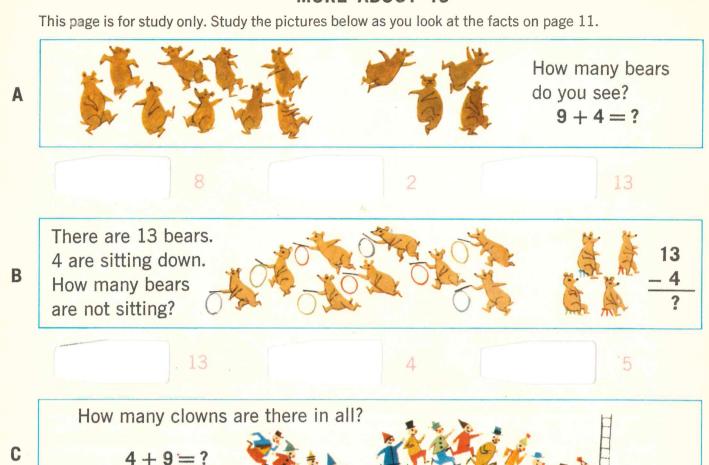




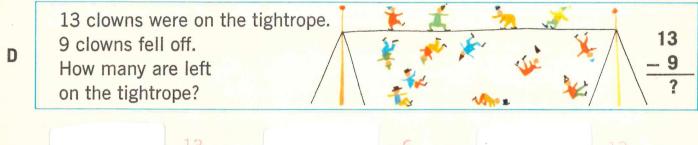
13	В
_6	

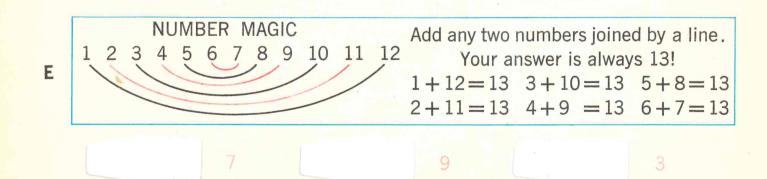
3 — Now check your work. Put your paper or Magic Slate under page 11. See if your answers are the same as the little red numbers in the windows.

MORE ABOUT 13

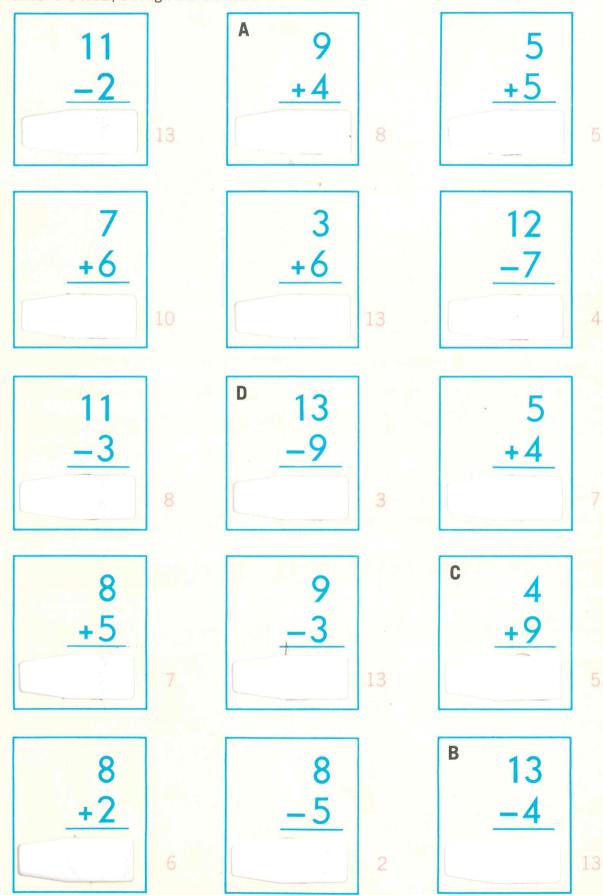








2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.

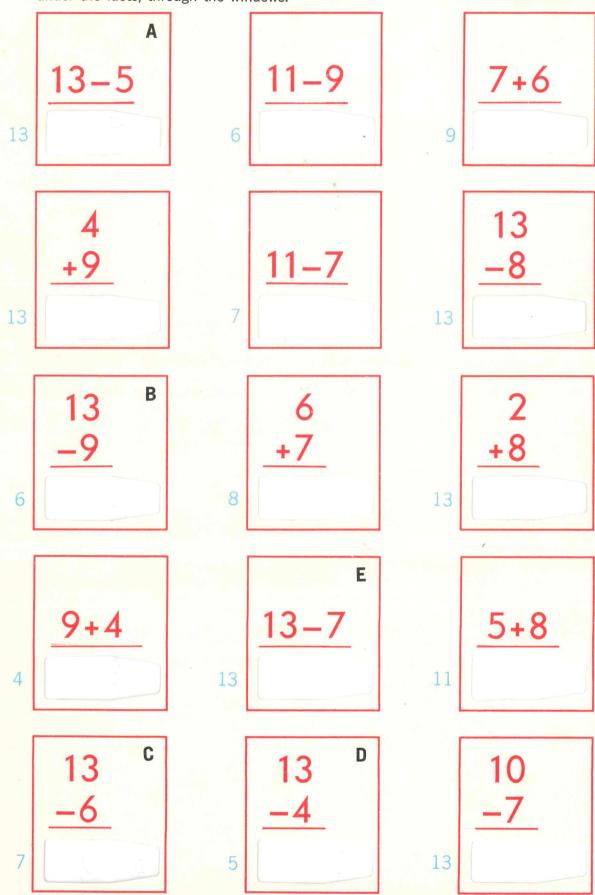


3 — Now check your work. Put your paper or Magic Slate under page 13. See if your answers are the same as the little blue numbers in the windows.

NOTE:

The red numbers outside the boxes have nothing to do with the facts on this page.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 10. See if your answers are the same as the little red numbers in the windows.

NOTE:

The blue numbers outside the boxes have nothing to do with the facts on this page.

HOW MANY ARE LEFT?

This page is for study only. Study the pictures below as you look at the facts on page 12.

A

13 blocks were on the shelves. Bill took 5 blocks.

How many are left on the shelves?

$$13 - 5 = ?$$



B



13 crayons were in the box. Ruth took out 9 crayons. How many are left in the box? 13

C

There were 13 jacks. Anne picked up 6 of them. How many are left to pick up?



13

D

13 marbles were in the ring. Dick shot 4 out of the ring. How many are left in the ring?



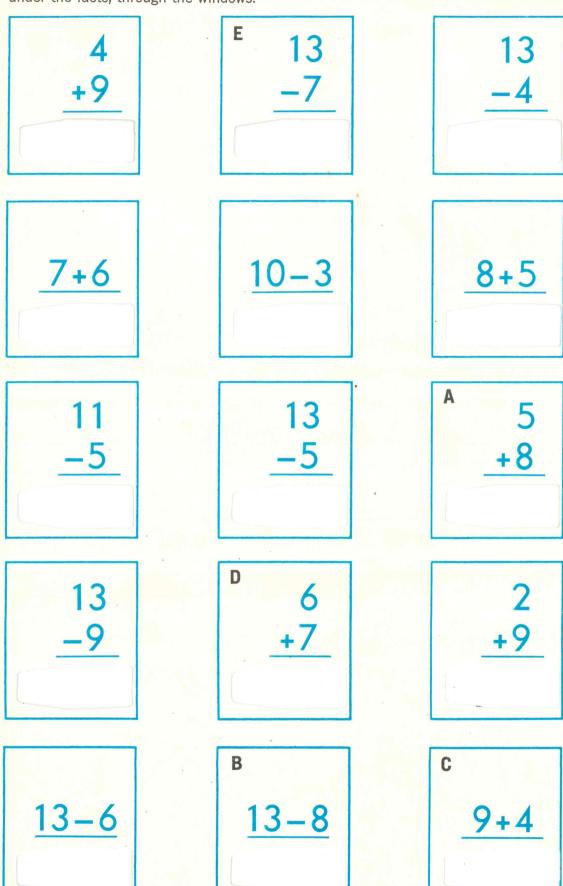
13

E



13 dolls were on the table. Jill took 7 of them. How many are left on the table? 13

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 12. See if your answers are the same as the little blue numbers in the windows.

ADD OR SUBTRACT?

This page is for study only. Study the pictures below as you look at the facts on page 14.

A





How many kittens are there? To find the answer we **add.**

$$5 + 8 = ?$$

В

There were 13 cars. 8 are going away. How many cars will be left?



To find the answer we **subtract**.

$$13 - 8 = ?$$

C

How many boys are there in all?



Add to find the answer.

D

How many girls are there in all?



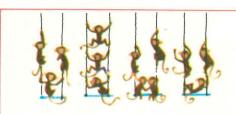
Add to find the answer.

E

13 puppies were playing.
7 went to sleep.
How many are not sleeping?
Subtract to find the answer.



ADD OR SUBTRACT?



How many more monkeys are there than swings?

13

В

Dick has 13¢. Bill has 8¢.

Which boy has less money? How much less?

13

C

How many boys are there altogether?



D



How many sheep are there in all?

8 + 5 = ?

E

Sue has 6 dolls. Flo has 7 dolls. How many dolls are there altogether?



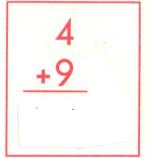






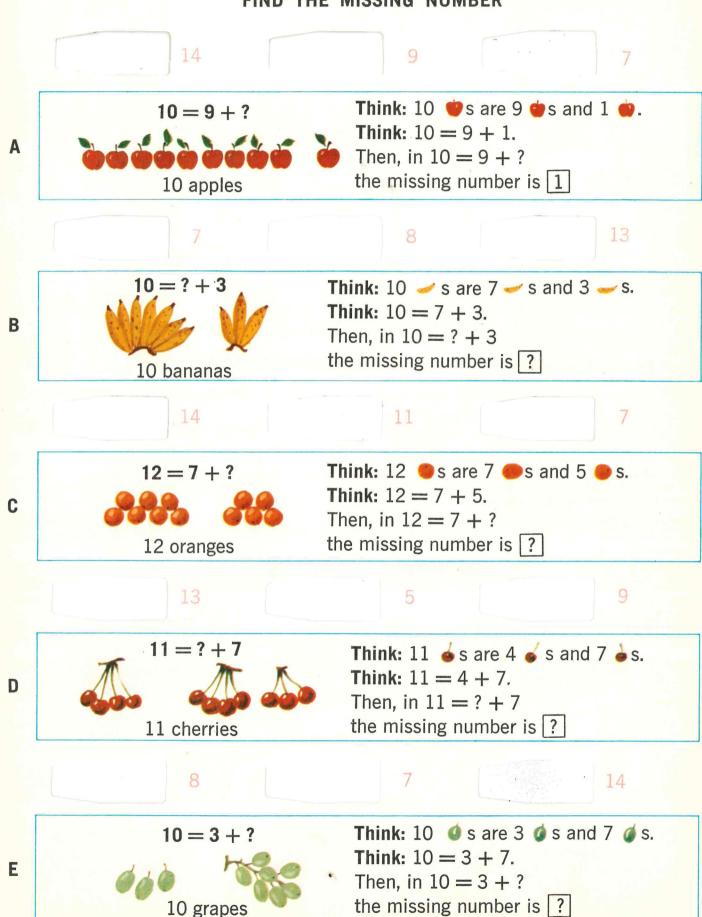




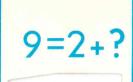


- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 19. See if your answers are the same as the little red numbers in the windows.

FIND THE MISSING NUMBER



This page is for study only. Study the pictures above as you look at the facts on page 19.





4

.

11=8+?

D



6

6

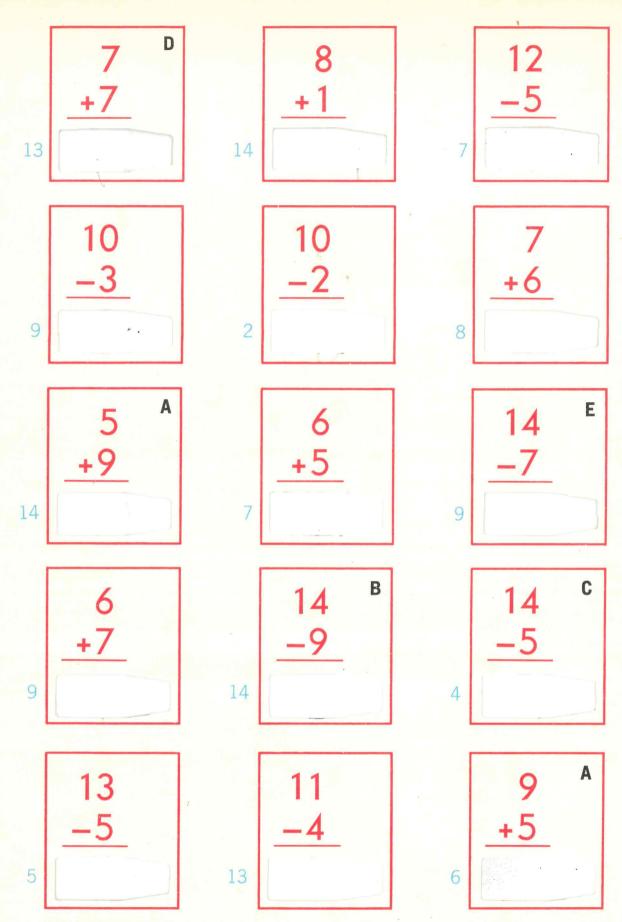
E

WHAT TO DO: 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 21. See if your answers are the same as the little blue numbers in the windows.

NOTE:

The red numbers outside the boxes have nothing to do with the facts on this page.



- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 18. See if your answers are the same as the little red numbers in the windows.

NOTE:



9

5

A +

9 boys + 5 girls ? children



5 girls + 9 boys ? children

1

* .



В



There are 14 children.
9 went to ride the ponies.
How many are left?

$$14 - 9 = ?$$

5

4

7

С



There are 14 children.
5 are watching.
How many are riding ponies?

14 - 5 = ?

7

8

6

D

E

How many hats are there in all?
7 hats and 7 hats are how many?



7 + 7 ?

4

There were 14 hats.

The children bought 7 How many hats are left?

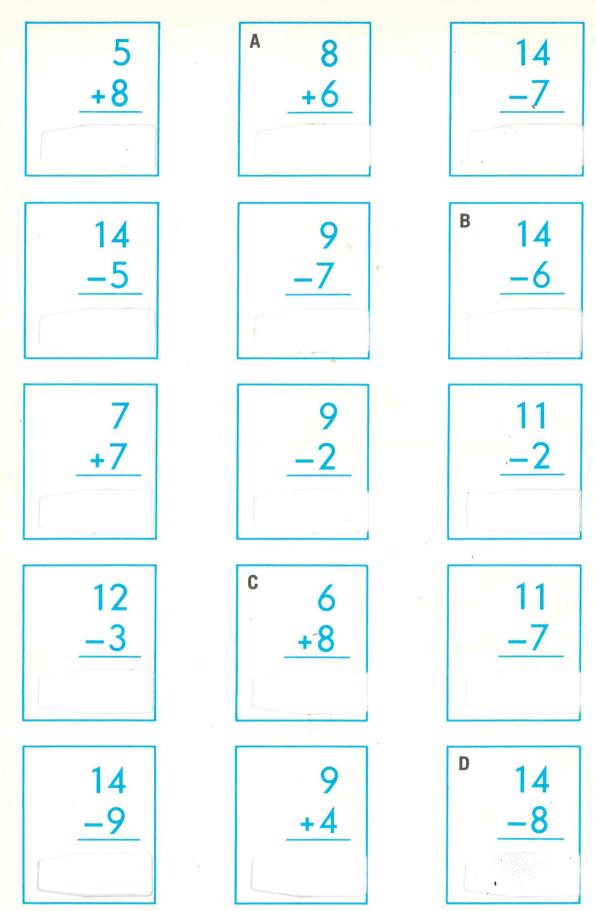




14

-7?

This page is for study only. Study the pictures above as you look at the facts on page 20. DO NOT write through the windows in this page.



- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 20. See if your answers are the same as the little blue numbers in the windows.

MORE ABOUT 14

Α

How many children are there altogether?



8 + 6 ?

В

There are 14 children.
6 are on the merry-go-round.
How many are not on it?





14 _ 6

C



How many balloons are there in all?

$$6 + 8 = ?$$

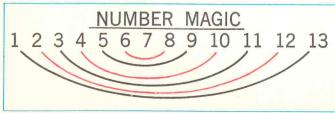
D



There were 14 balloons.
The boys broke 8 of them.
How many are left?

$$14 - 8 = ?$$

E



Add any two numbers joined by a line.

Your answer is always 14!

$$1+13=14$$
 $3+11=14$ $5+9=14$

$$2+12=14$$
 $4+10=14$ $6+8=14$

This page is for study only. Study the pictures above as you look at the facts on page 22.

HOW MANY ARE THERE ALTOGETHER?

This page is for study only. Study the pictures below as you look at the facts on page 25.

A



4 trees

+ 9 trees
? trees

В

How many squirrels are there altogether?



5 squirrels

+ 9 squirrels

? squirrels

C



8 †s

+ 6 🛡 s

D

How many nuts are there altogether?



9 nuts

+ 5 nuts

E



8 leaves

+ 5 leaves

? leaves

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.





3 — Now check your work. Put your paper or Magic Slate under page 27. See if your answers are the same as the little red numbers in the windows.

A

B

C

D

E

HOW MANY ARE LEFT?

This page is for study only. Study the pictures below as you look at the facts on page 27.

There were 14 As. 6 took off. How many As are left?

There were 13 7. 9 took off. How many ** are left?

13

14

There were 13 es. The men took 7 of them. How many s are left?

13 - 7 = ?

There were 14 airplanes. 7 took off. How many airplanes are left?

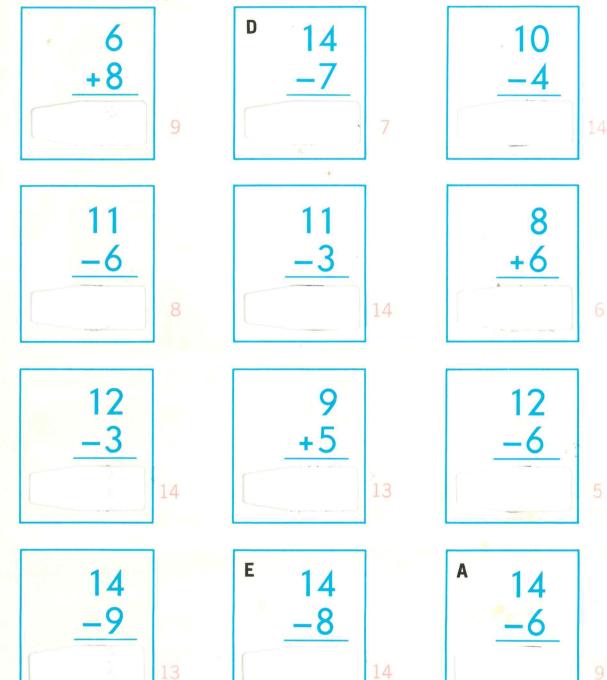
14 - 7 = ?

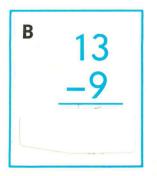
There are 14 people. 8 are going away. How many will be left?

14

14

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



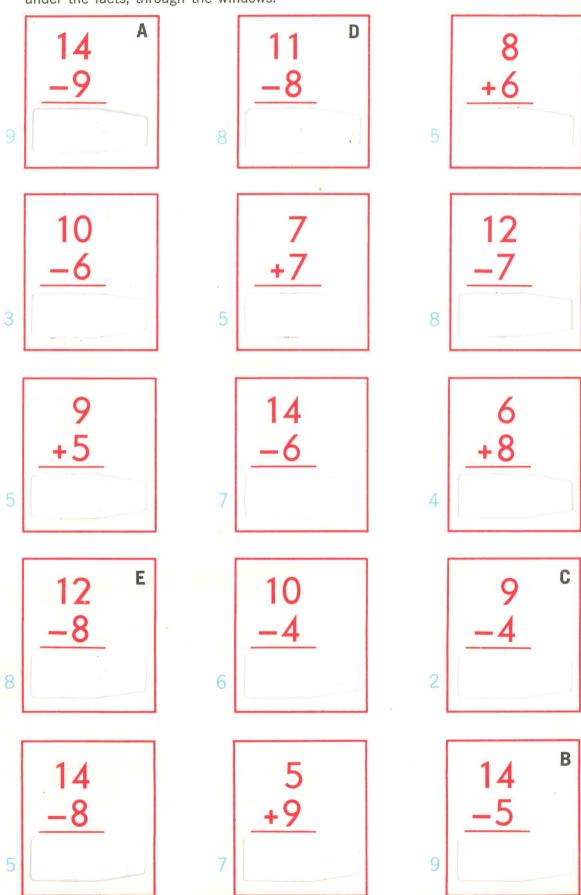


3 — Now check your work. Put your paper or Magic Slate under page 29. See if your answers are the same as the little blue numbers in the windows.

NOTE:

The red numbers outside the boxes have nothing to do with the facts on this page.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 26. See if your answers are the same as the little red numbers in the windows.

NOTE:

The blue numbers outside the boxes have nothing to do with the facts on this page.

HOW MANY MORE?

This page is for study only. Study the pictures below as you look at the facts on page 28.

A Are there more s than s?
How many more?



14

7

6

В



Are there more \longrightarrow s than \longrightarrow s? How many more? 14-5=?

5

8

14

C



Are there more

s than

s?

How many more?

9 - 4

9



6

D

Are there more varpsi s than varpsi s? How many more? varpsi 11 – 8 = ?



5

6

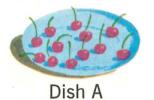
8

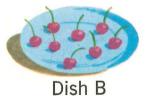
E

Which dish has more

✓ s?

How many more?





12 - 8

6

14

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.

3 — Now check your work. Put your paper or Magic Slate under page 28. See if your answers are the same as the little blue numbers in the windows.

A

В

C

D

E

O

O

U

FIND THE MISSING NUMBER

This page is for study only. Study the pictures below as you look at the facts on page 30.

Think: 11 s are 2 s and 9 s.

Think: 11 = 2 + 9.

Then, in 11 = 2 + ?

the missing number is ?

11 = 2 + ?

00000000

11 buttons

Think: 12 \times s are 5 \times s and 7 \times s.

Think: 12 = 5 + 7.

Then, in 12 = ? + 7

the missing number is ?



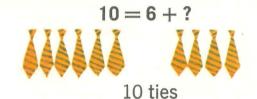
12 bows

Think: 10 **¼** s are 6 **¼** s and 4 **⋠** s.

Think: 10 = 6 + 4.

Then, in 10 = 6 + ?

the missing number is ?



Think: 12 \nearrow s are 9 \nearrow s and 3 \nearrow s.

Think: 12 = 9 + 3.

Then, in 12 = ? + 3

the missing number is ?



Think: 9 __s are 7 __s and 2 __s.

Think: 9 = 7 + 2.

Then, in 9 = ? + 2

the missing number is ?

9 = ? + 2



9 hats

ABOUT 15

8 ▲ s + 7 ▲ s ? boats

How many boats are there in all?



7 ▲ s + 8 ▲ s ? boats

B

7 boats went away. How many are left?

$$15 - 7 = ?$$

15 boats

8 boats are red. How many boats are yellow?

$$15 - 8 = ?$$

6 A S

? boats



9 s + 6 s ? boats

6 boats have sails. How many boats ___

do not have sails?
$$15 - 6 = ?$$

15 boats

9 boats are green. How many boats are not green?

$$15 - 9 = ?$$

NUMBER MAGIC Add down. 492 vo

Add up.
Add across.

Your answer is always 15!

3 5 7 8 1 6

2 8 7 3 6 4

3 5 4 9

5 7 9 2 2 2

4 3 8 9 5 1 2 7 6

This page is for study only. Study the pictures above as you look at the facts on page 33.

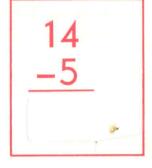
E

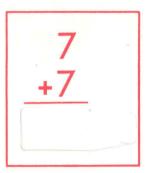
D





0







WHAT TO DO: 1 — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 35. See if your answers are the same as the little red numbers in the windows.

AT THE SWIMMING POOL

15

3

8

A



How many children are there in all?

6 + 9 ?

6

í

9

5

There are 15 children.

7 are going to jump into the water. How many are already in the water?

15 - 7 = ?



70

13

7

C

B



There are 15 children. 8 got out of the water.

How many are still in the water?

15 - 8

8

15

7

D

8 balls and 6 balls are how many balls?



8 + 6 = ?

11

5

14

E

There were 14 balls.

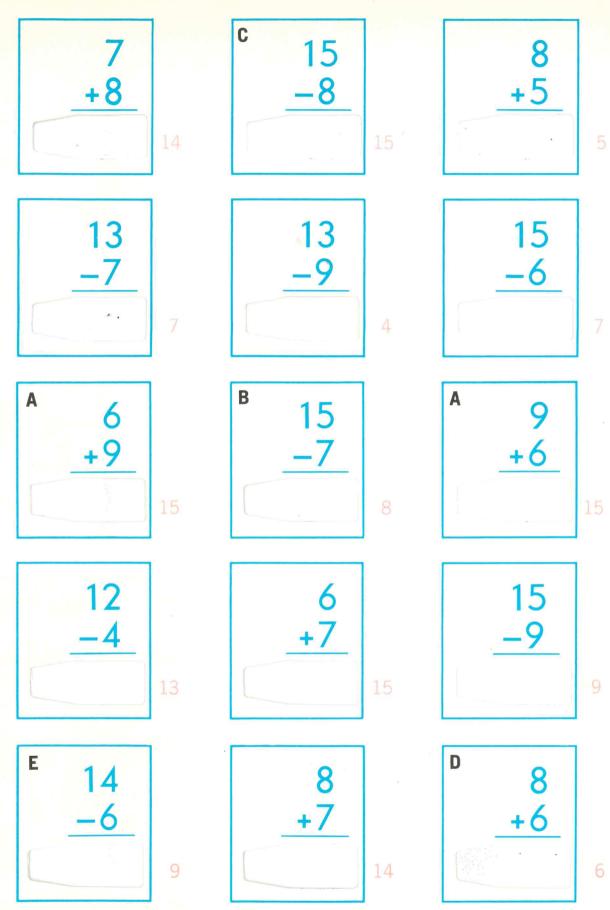
The boys took 6 of them. How many balls are left?



14 _ 6

<u>- 6</u>

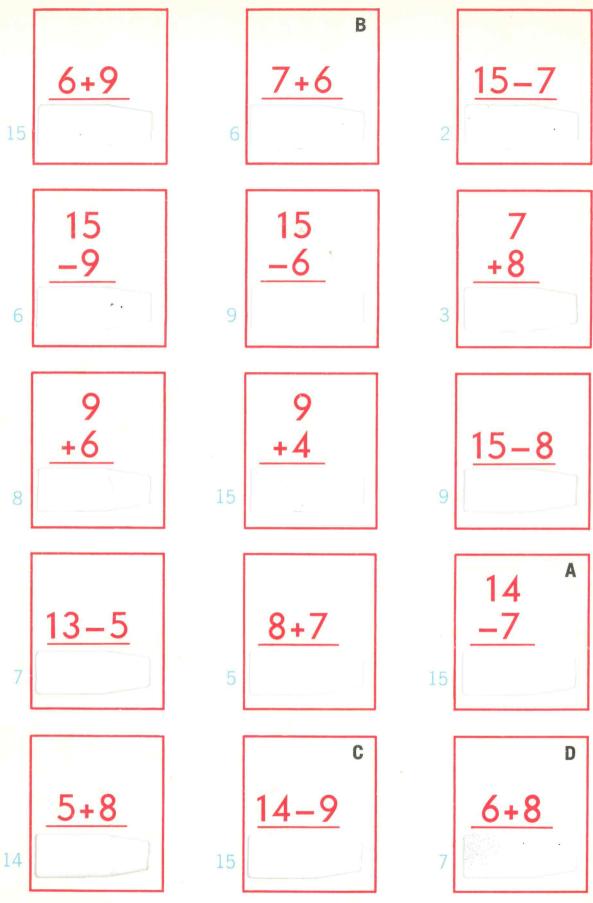
This page is for study only. Study the pictures above as you look at the facts on page 35.



WHAT TO DO: 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 37. See if your answers are the same as the little blue numbers in the windows.

NOTE:



WHAT TO DO: 1 - Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 34. See if your answers are the same as the little red numbers in the windows.

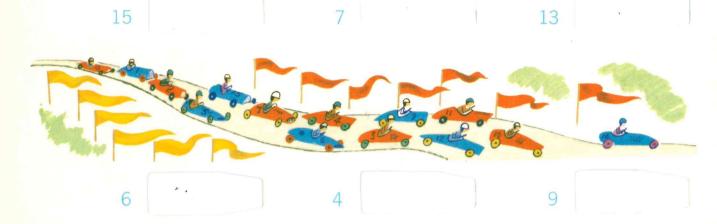
The blue numbers outside the boxes have nothing to do with the facts on this page.

NOTE:

C

D











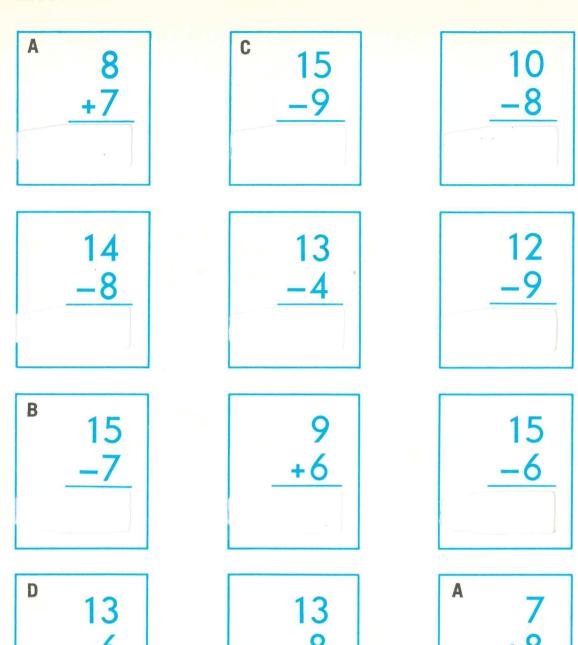
There are
$$14
ightharpoonup s$$
.

9 $ightharpoonup s$ are yellow.

How many are blue?

14 - 9 = ?

This page is for study only. Study the pictures above as you look at the facts on page 36. DO NOT write through the windows in this page.



5 +9

6 +9

15 -8

WHAT TO DO: 1 - Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 36. See if your answers are the same as the little blue numbers in the windows.

AT THE PET SHOW



A

There were 8 gray kittens and 7 black kittens at the show. How many kittens were there?



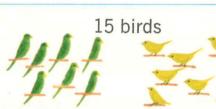
8 + 7 = ?



7 + 8 = ?

В

15
- 7
| flew away how many birds would be left?



If the 8 s
flew away
how many birds
would be left?

15 - 8 ?

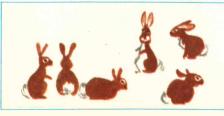
C



There were 15 fish.
9 of them were yellow.
How many were green?

15 _ 9

D



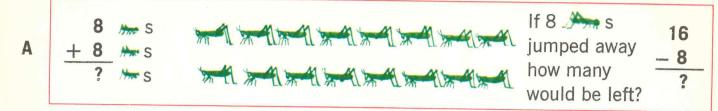
のなる。

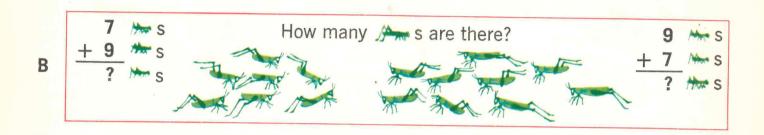
There were 13 rabbits. 6 rabbits were brown. How many were gray?

13 - 6 = ?

ABOUT 16

This page is for study only. Study the pictures below as you look at the facts on page 41.





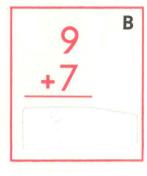


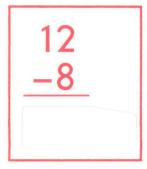
D	NUMBER MAGIC .					3	6	7	8	1	7	3	5	Q
	Add down.	3 6 7 5 9 2	7	Your answer	5	9	2	5	9	2	6	9	1	
	Add up.		is always 16!		1	7	3	6	7	7	2	7		
	Add across.	8	1	7	io amajo 10.	16	16	16	16	16	16	16	16	16

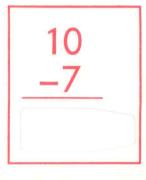


WHAT TO DO: 1 — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.







3 – Now check your work. Put your paper or Magic Slate under page 43. See if your answers are the same as the little red numbers in the windows.

ABOUT 17 AND 18

This page is for study only. Study the pictures below as you look at the facts on page 43.

A

B





How many % s are there in all?

If you ate 9 🦠 s how many would be left?

17 - 9 = ?

If you ate 8 s how many would be left?

17 - 8 = ?

9 chickens C

+ 9 chickens ? chickens



There are 18 chickens. 9 are eating.

How many are not eating?

18 - 9 = ?

8

D

Add down. Add up. Add across.

NUMBER MAGIC

Your answer is always 17!

9

9 4 4

4 3 17

E

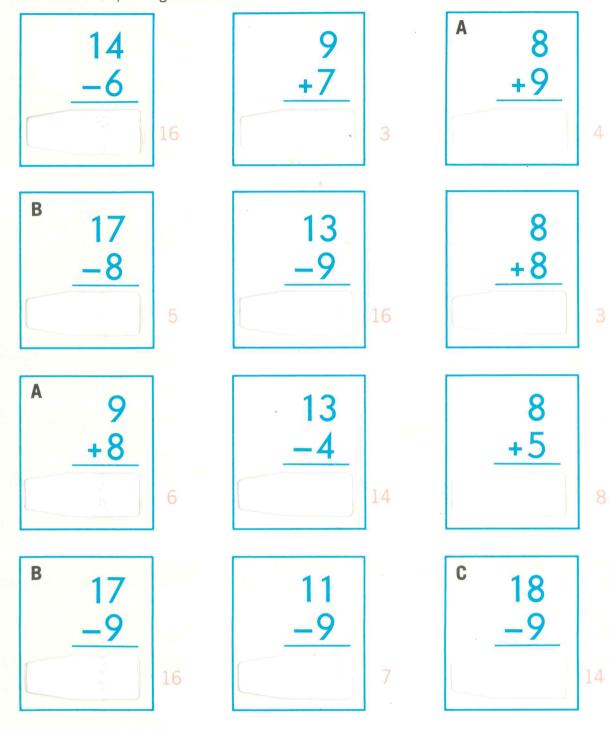
MORE NUMBER MAGIC 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

Add any two numbers joined by a line.

Your answer is always 18!

WHAT TO DO: 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



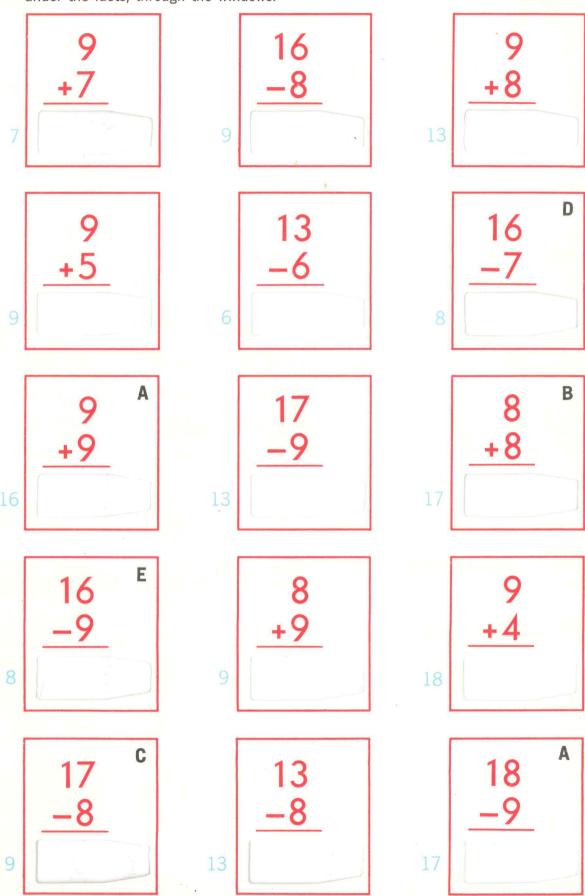
3 — Now check your work. Put your paper or Magic Slate under page 45. See if your answers are the same as the little blue numbers in the windows.

NOTE:

The red numbers outside the boxes have nothing to do with the facts on this page.

WHAT TO DO: 1 — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 42. See if your answers are the same as the little red numbers in the windows.

NOTE:

The blue numbers outside the boxes have nothing to do with the facts on this page.

OUTDOOR FUN

This page is for study only. Study the pictures below as you look at the facts on page 44.

A

Jim caught 9 fish. Joe caught 9 fish. 9 + 9 = ?





They gave away 9 fish. How many fish did they keep?

18 – 9 = ?

8

16

17

В

How many boys are there in all?

8 boys
+ 8 boys
poys
boys

9

4

16

C

There were 17 ducks. 8 flew away. How many are left?



17 - 8 ?

17

9

13

D



There were 16 %s. The boys caught 7 of them. How many got away? 16-7=?

8

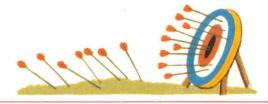
2

9

E

There are 16 ← s. 9 of them hit the . How many missed?

16 _ 9



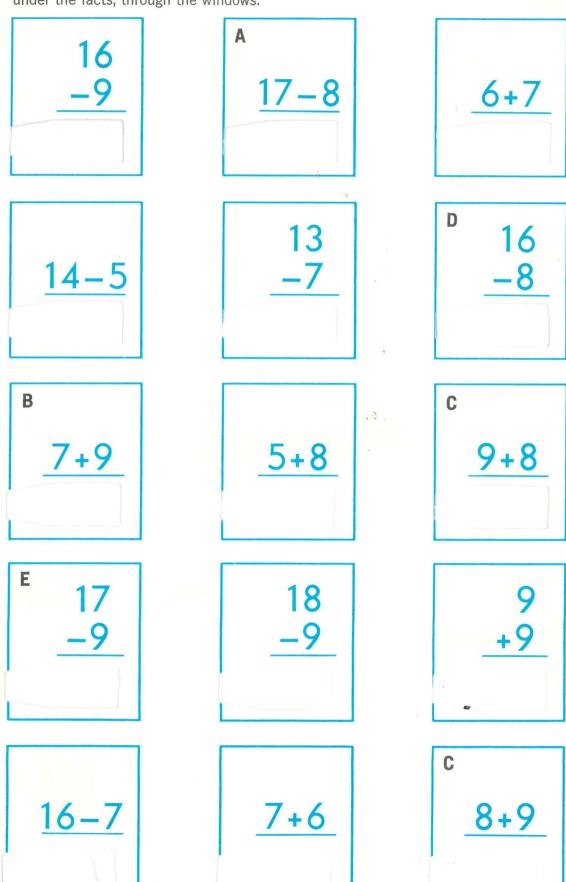
14

16

18

WHAT TO DO: 1 - Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 44. See if your answers are the same as the little blue numbers in the windows.

ADD OR SUBTRACT?

This page is for study only. Study the pictures below as you look at the facts on page 46.

A How many more candles should there be on his cake?



17 - 8

В



7 children and 9 children are how many children?

C

How many birds are there in all?



8 + 9 = ?

9 + 8 = ?

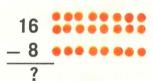
D



John has 8 cents.

He wants a pen.

How many more cents does he need?



E

17 children were skating. 9 children fell down. How many did not fall?



17 - 9 ?

IN THE GARDEN

A



How many plants are there altogether?

$$9 + 7 = ?$$

В



4 s and

9 🌡s are how many &s?

C

There were 13 flowers. May picked 5 of them. How many are left?



13

D

18 \(\int \) s were growing in the garden. 9 were pulled up. How many ∳s are left?



18

E

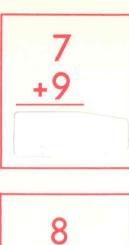
16 bees were on a flower. 9 bees flew away. How many are left? 16 - 9 = ?

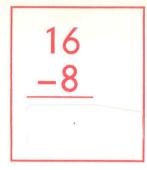


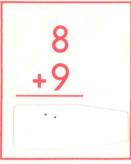
There were 16 bees. 7 stayed on the flower. How many flew away?

16 - 7 = ?

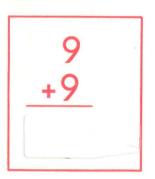
This page is for study only. Study the pictures above as you look at the facts on page 49.

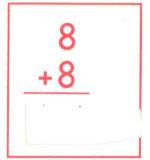












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- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 51. See if your answers are the same as the little red numbers in the windows.

FIND THE MISSING NUMBER

9 15

12 = 3 + ? A /// /////// 12 crayons Think: 12 /s are 3 /s and 9 /s. Think: 12 = 3 + 9. Then, in 12 = 3 + ?the missing number is ?

Think: 12 \sqrt{s} are 8 \sqrt{s} and 4 \sqrt{s} .

14 17 13

12 = ? + 4

B ////// ////
12 rulers

C

D

E

Think: 12 = 8 + 4. Then, in 12 = ? + 4the missing number is ?

15 6 14

11 = 5 + ?
///// /////
11 pencils

Think: 11 / s are 5 / s and 6 / s. Think: 11 = 5 + 6. Then, in 11 = 5 + ?the missing number is ?

5 16

Think: 11 / s are 9 / s and 2 / s.

Think: 11 / s are 9 / s and 2 / s.

Think: 11 = 9 + 2.

Then, in 11 = ? + 2the missing number is ?

14 6 13

11 = 3 + ?

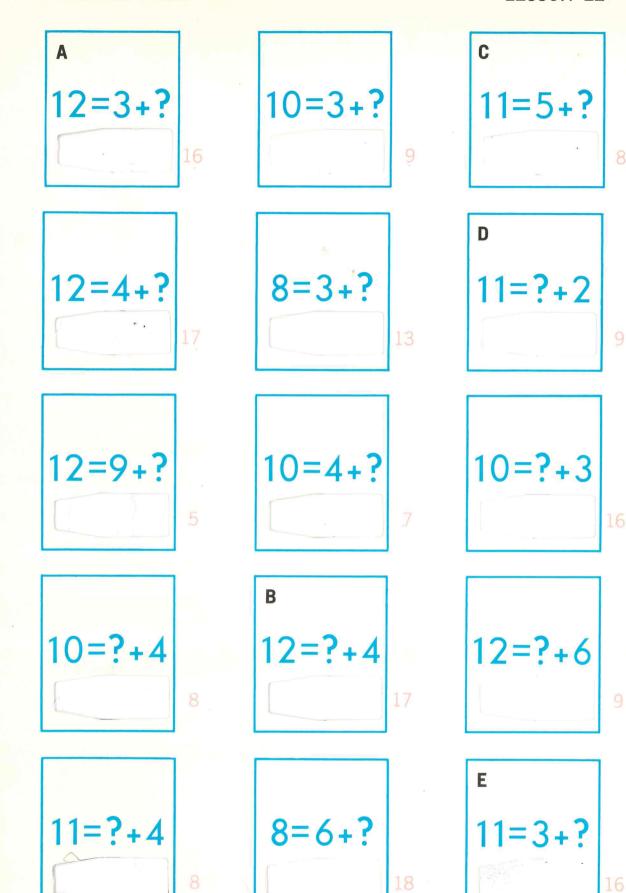
11 books

Think: 11 \int s are 3 \int s and 8 \int s. Think: 11 = 3 + 8. Then, in 11 = 3 + ? the missing number is ?

This page is for study only. Study the pictures above as you look at the facts on page 51.

0

U

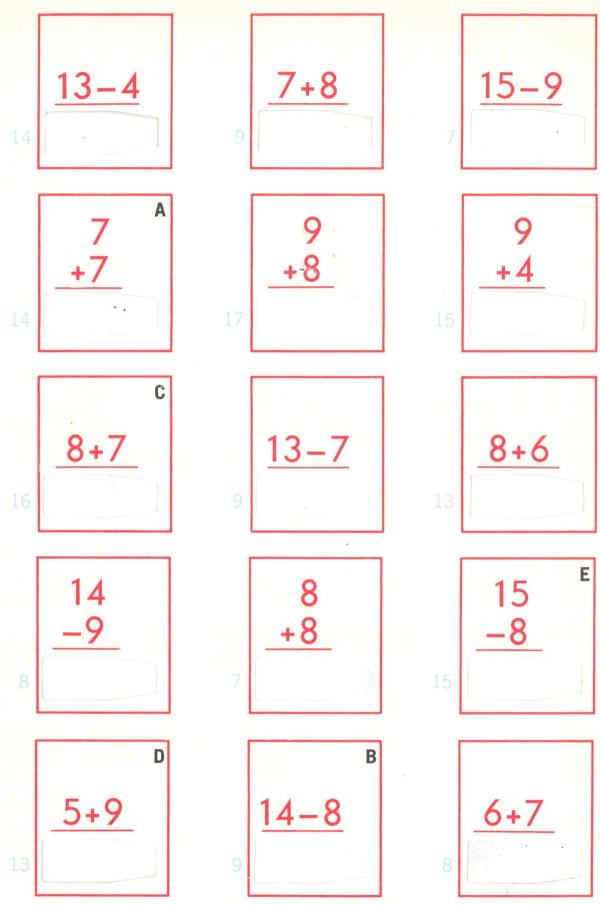


WHAT TO DO: 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 53. See if your answers are the same as the little blue numbers in the windows.

NOTE:

The red numbers outside the boxes have nothing to do with the facts on this page.



WHAT TO DO: 1 — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

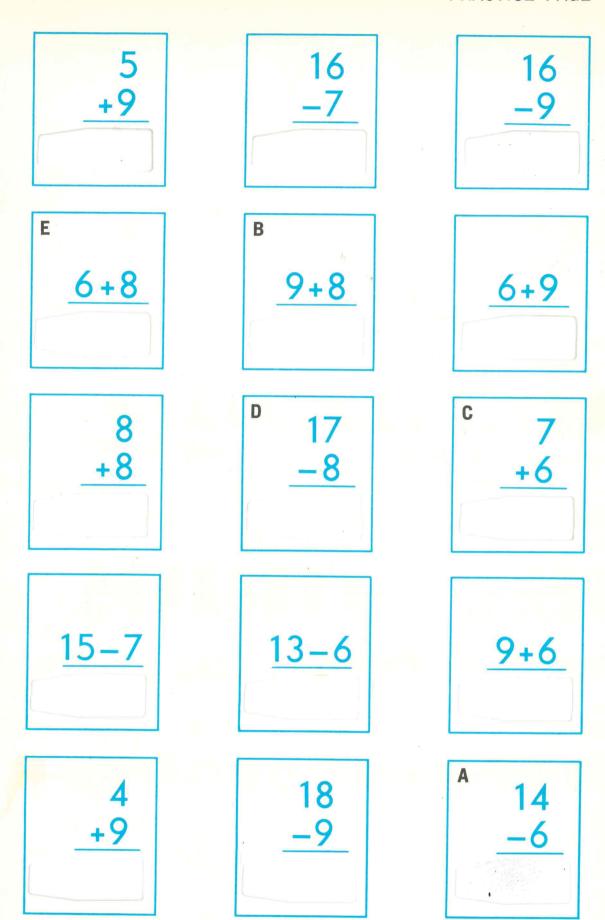
- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 50. See if your answers are the same as the little red numbers in the windows.

The blue numbers outside the boxes have nothing to do with the facts on this page.

NOTE:

15 - 8 = ?

This page is for study only. Study the pictures above as you look at the facts on page 52. DO NOT write through the windows in this page.



WHAT TO DO: 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

- ${f 2}$ Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 52. See if your answers are the same as the little blue numbers in the windows.

AT THE LAKE

A



14 frogs were on a 6 frogs jumped off.
How many are left on the ?

14 - 6 ?

В

There were 9 ducks. 8 more ducks came. How many ducks are there in all?



C

7 \sqrt{s} and 6 \sqrt{s} are how many \sqrt{s} ? 7 + 6 = ?



D

There were 17 as. 8 went away.
How many as are left?



E



How many boats are there in all?

6 + 8 ?

This page is for study only. Study the pictures above as you look at the facts on page 54.

FIND THE ANSWER

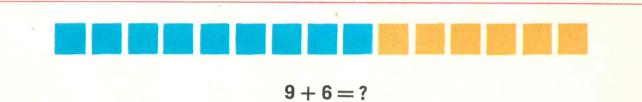
This page is for study only. Study the pictures below as you look at the facts on page 57.

A



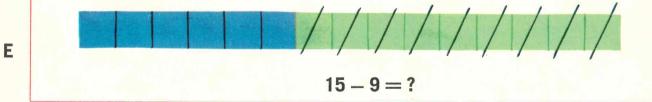
$$16 - 8 = ?$$

В



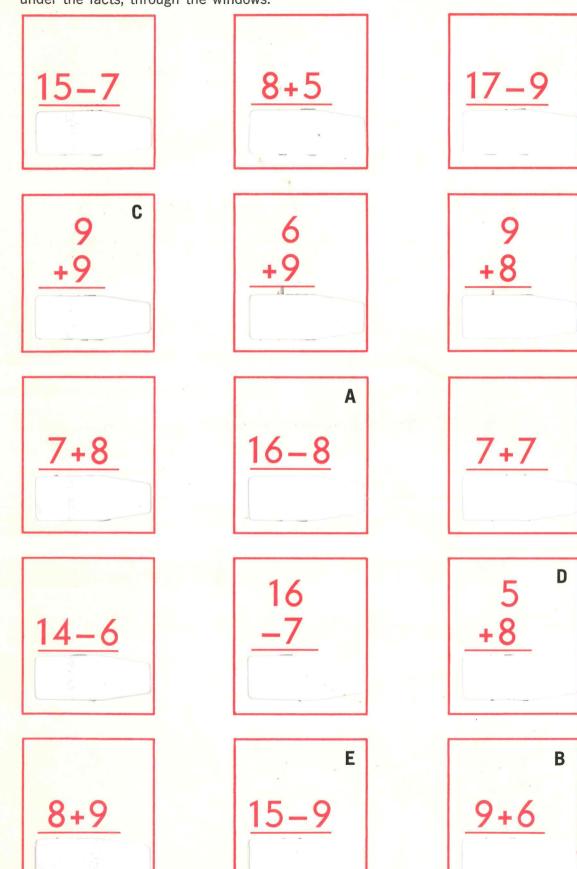


D



WHAT TO DO: 1 — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 59. See if your answers are the same as the little red numbers in the windows.

ON THE FARM

This page is for study only. Study the pictures below as you look at the facts on page 59.

A

B

6 brown cows and

9 black cows are how many cows?



(

Ruth found 9 eggs.

Jim found 5 eggs.

How many eggs

did they find in all?



9 + 5 ?

1 7



14

c THAT

17 birds were on the 1111.
9 birds flew away.
How many are left?

$$17 - 9 = ?$$

15

8

There were 14 pumpkins.

The children took away 5.

How many pumpkins are left?



14 - 5 ?

16

15

7

E



15 chickens were in the pen. 6 chickens got out. How many are left in the pen?

$$15 - 6 = ?$$

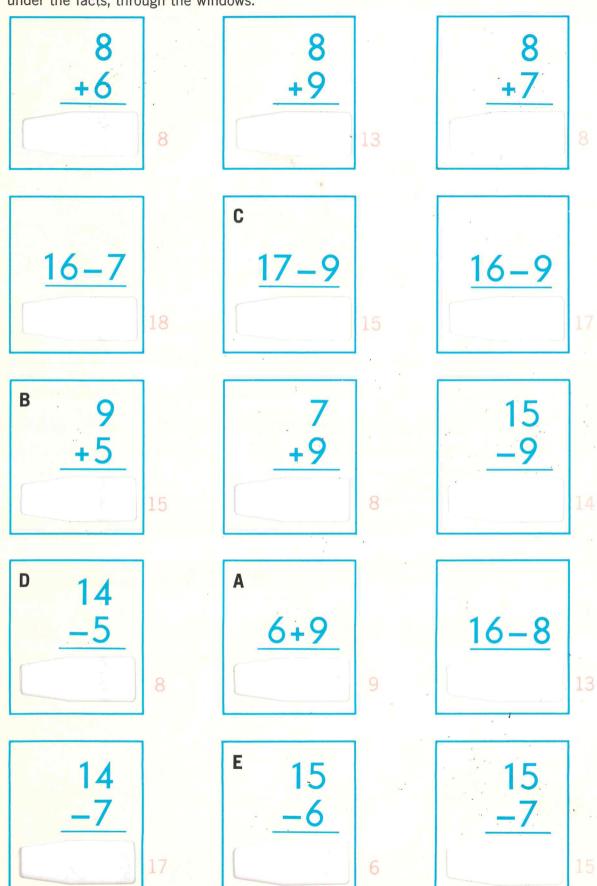
18

7

9

WHAT TO DO: 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.

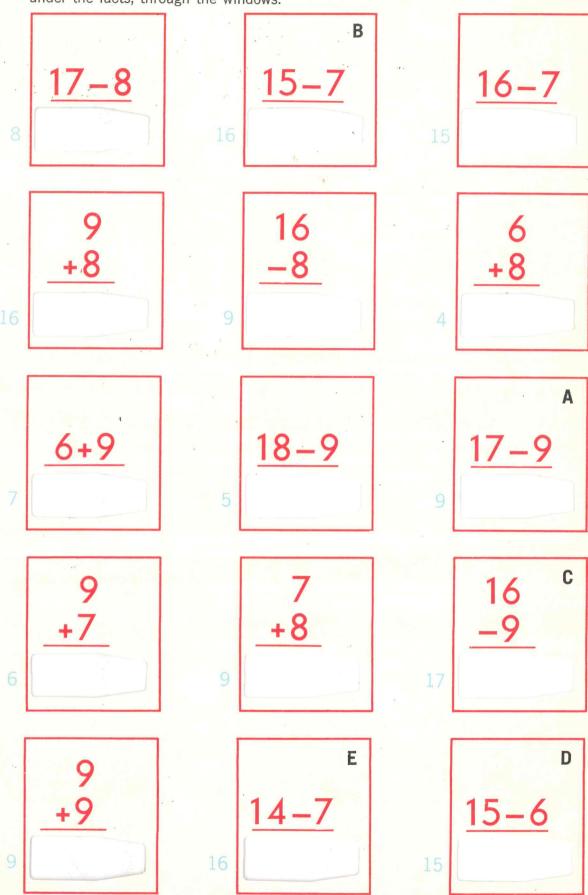


3 — Now check your work. Put your paper or Magic Slate under page 61. See if your answers are the same as the little blue numbers in the windows.

NOTE:

WHAT TO DO: 1 — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 58. See if your answers are the same as the little red numbers in the windows.

NOTE:

60

The blue numbers outside the boxes have nothing to do with the facts on this page.

HOW MANY MORE ARE NEEDED?

This page is for study only. Study the pictures below as you look at the facts on page 60.



There are $17 \cdot \phi$ s and $9 \cdot \phi$ s. Each • should have a ...

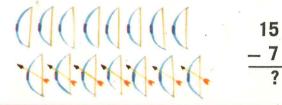
17

How many more \(s \) are needed?

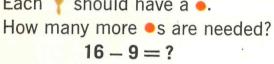
14

15

There are 15 (s and 7 -- s. Each (should have an -----B How many more - s are needed?



Each \ should have a .





14

C

D

16



There are 15
s and 6
s. Each should have a 3. How many more 3 s are needed? 15 - 6 = ?

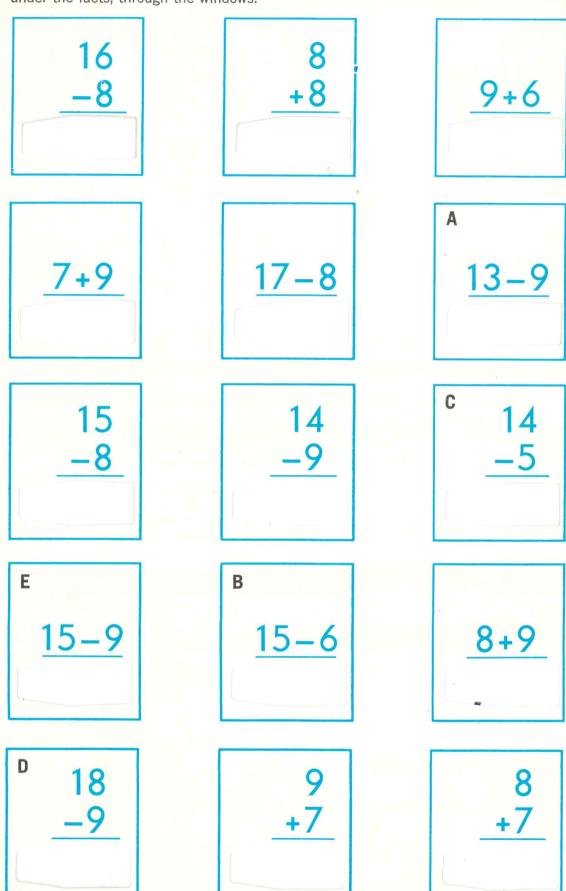
9

15

E There are $14 \gtrsim s$ and $7 \lesssim s$. Each 👢 should have a 📻. How many more sare needed? 14 - 7 = ?

WHAT TO DO: 1 - Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

2 — Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.



3 — Now check your work. Put your paper or Magic Slate under page 60. See if your answers are the same as the little blue numbers in the windows.

TAKE AWAY

This page is for study only. Study the pictures below as you look at the facts on page 62.

A

D

1

There are 13 paper dolls.

Take away 9.

How many will be left?



B

There are 15 blocks.

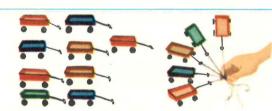
Take away 6.

How many will be left?



C

There are 14 wagons.
Take away 5.
How many will be left?



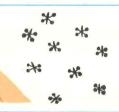
D

There are 18 jacks.

Take away 9.

How many will be left?





E

There are 15 tops.

Take away 9.

How many will be left?



AT THE AIRPORT

A



7 men and 8 women are getting into the plane. How many people in all are getting into the plane?

7 + 8

В

C

There are 16 boxes. The man will put 8 of them on the plane. How many will be left?





16

How many s are there altogether?

8 + 8 = ?

D

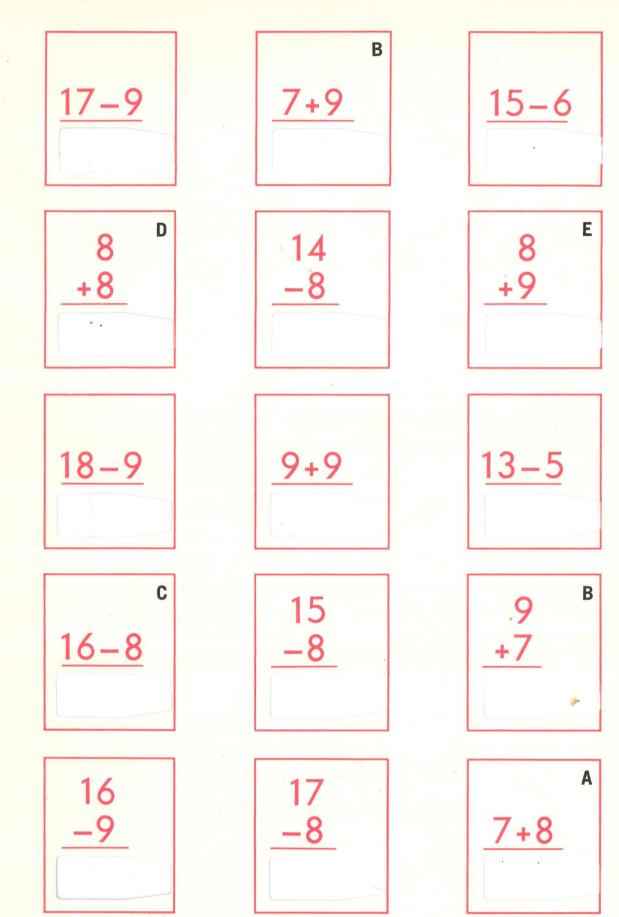


E

How many people are there in all?



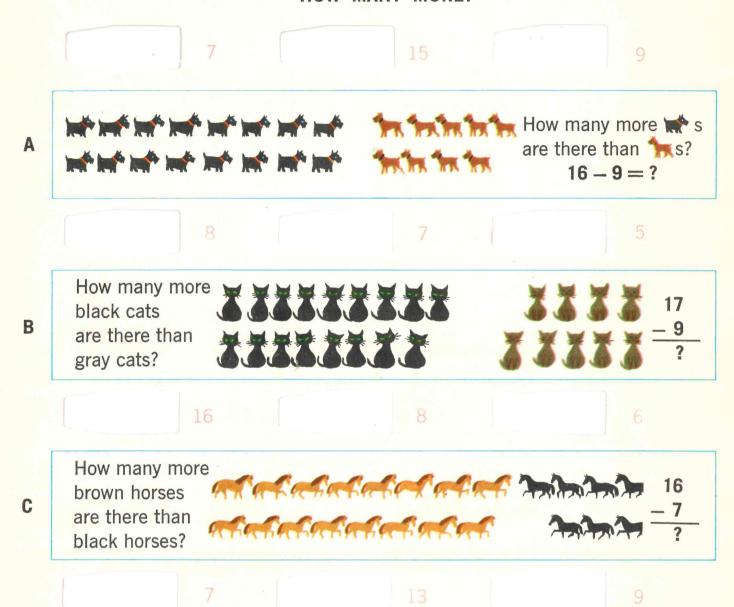




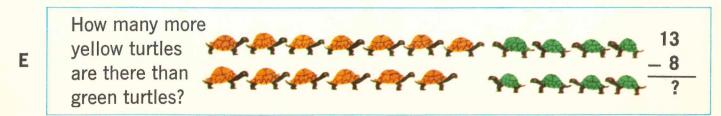
WHAT TO DO: 1 — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 67. See if your answers are the same as the little red numbers in the windows.



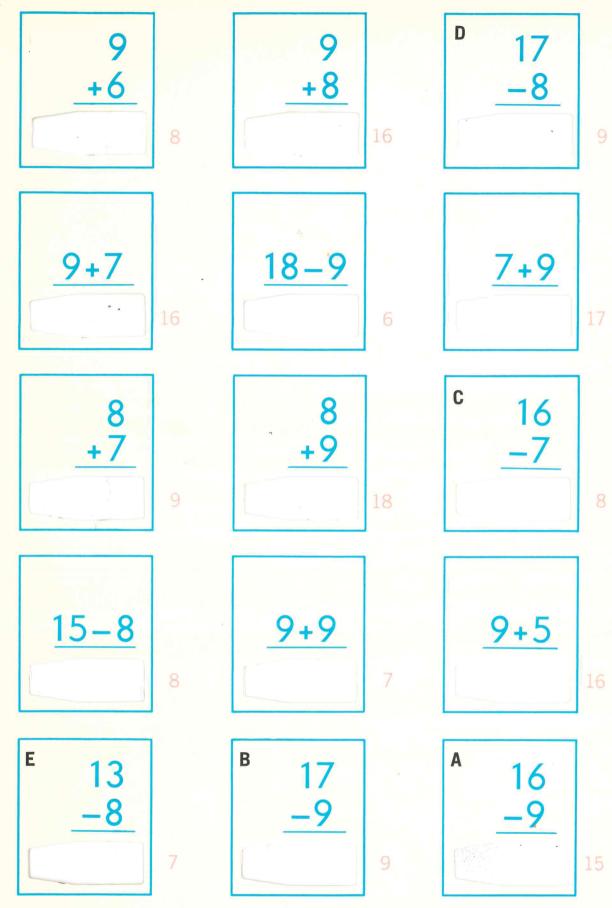






This page is for study only. Study the pictures above as you look at the facts on page 67. DO NOT write through the windows in this page.

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WHAT TO DO: 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 69. See if your answers are the same as the little blue numbers in the windows.

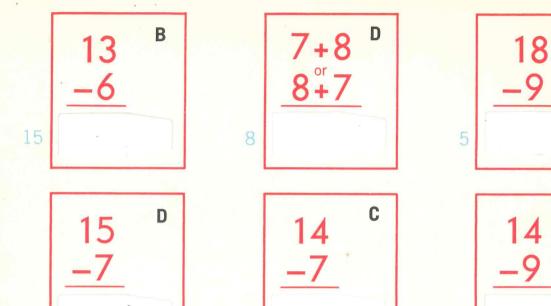
NOTE:

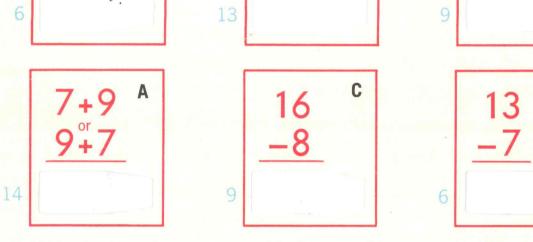
The red numbers outside the boxes have nothing to do with the facts on this page.

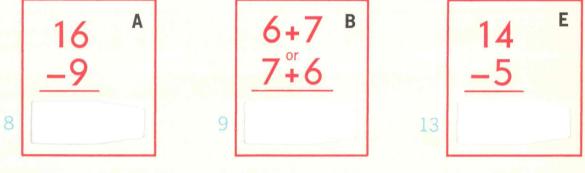
C

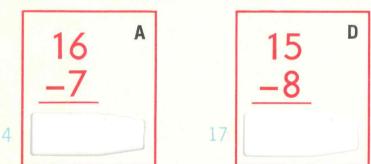
E

B







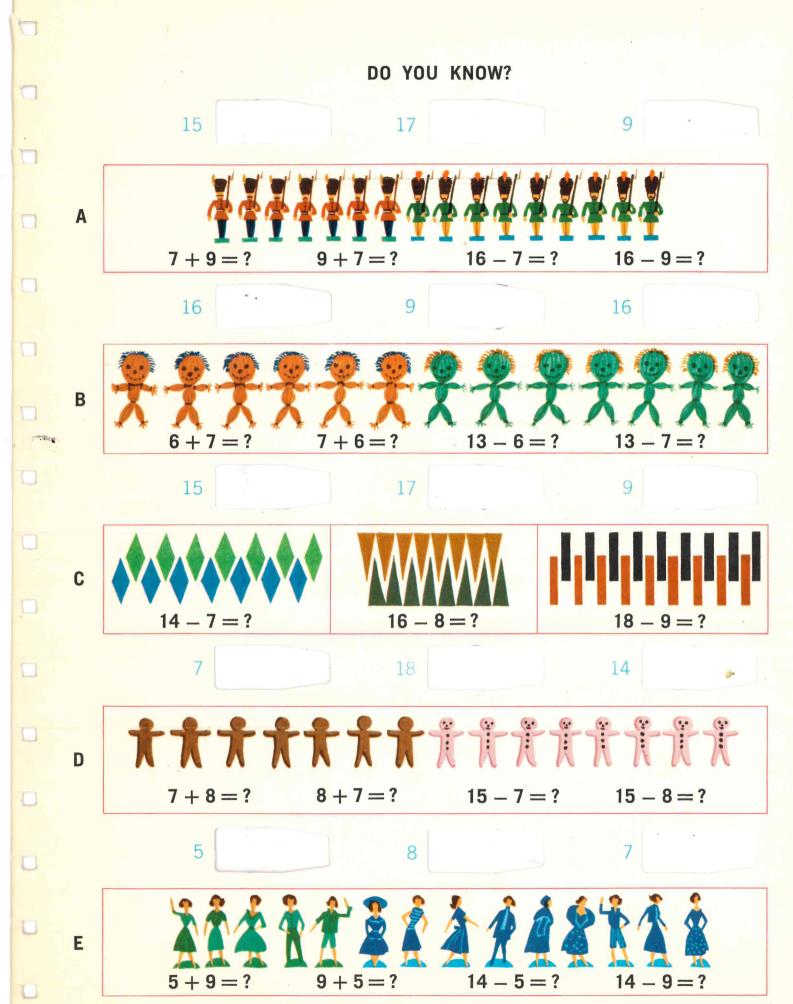




WHAT TO DO: 1 — Look at the facts on this page. The little red numbers in the windows are the right answers. Study the facts and the answers.

- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- 3 Now check your work. Put your paper or Magic Slate under page 66. See if your answers are the same as the little red numbers in the windows.

68



This page is for study only. Study the pictures above as you look at the facts on page 68. DO NOT write through the windows in this page.

WHAT TO DO: 1 — Look at the facts on this page. The little blue numbers in the windows are the right answers. Study the facts and the answers.

- 2 Then put a piece of paper or a Magic Slate under this page. Write your answers under the facts, through the windows.
- **3** Now check your work. Put your paper or Magic Slate under page 68. See if your answers are the same as the little blue numbers in the windows.

DO YOU KNOW?

A



В



$$6 + 9 = ?$$

$$9 + 6 = ?$$

$$15 - 6 = ?$$

$$15 - 9 = ?$$

C



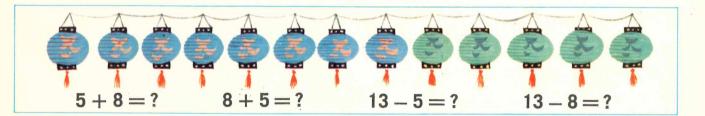
$$6 + 8 = ?$$

$$8 + 6 = ?$$

$$14 - 6 = ?$$

$$14 - 8 = ?$$

D



E

RATIONAL RAT

$$8 + 9 = ?$$

$$9 + 8 = ?$$

$$17 - 8 = ?$$

$$17 - 9 = ?$$

This page is for study only. Study the pictures above as you look at the facts on page 70.

A Note to Teachers and Parents

Growth through Self-Direction - There are wide individual differences among children, even in a well-graded class. These differences are often most pronounced with respect to computational skills. It is here that the Knowledge Master Books satisfy a real need, felt by parents and teachers alike. These books enable the learner to study facts while looking at the answers; to test himself with the answers concealed; and finally to check himself while he sees simultaneously the fact, the correct answer, and his own answer. Through Knowledge Master Books for arithmetic, the learner may proceed rapidly toward complete mastery of the fundamental facts.

This series makes a further contribution to the learner's growth. Because the child is in control of the essential elements in learning arithmetic, he senses a personal responsibility for his own progress. Thus, through their technical provisions for Self-Study, Self-Test, and Self-Check, the Knowledge Master Books facilitate the development of the all-important habits of self-direction and self-reliance.

Purposeful Practice — Just as the "old school" went too far in its rather exclusive use of drill, many modern schools rely too heavily on "experiences" and "activities." We now know that when a child learns the purpose of practice, he will be motivated to work harder in order to acquire and maintain the requisite skills. That is the purpose of these books.

For School and Home Use — These books do not pretend to supplant the teacher and the basic arithmetic textbook. The teacher, using good books, must provide the stimulating developmental experiences and detailed explanations that give full meaning to arithmetical problems and processes. The Knowledge Master Books are designed to supplement the customary school materials and activities. They can be effectively used in both the school and the home.

THE AUTHORS

There will be five books in the arithmetic series. Here is a brief outline of the subject matter in each book:

First Book — 43 basic addition facts and 43 basic subtraction facts, with sums and minuends of 4 through 12.

Second Book — 21 basic addition facts and 21 basic subtraction facts, with sums and minuends of 13 through 18.

Third Book — Extended application of all basic addition and subtraction facts, column addition, "carrying" in addition, "borrowing" in subtraction, zero difficulties.

Fourth Book — First half of basic multiplication and division facts.

Fifth Book — Completion of basic multiplication and division facts.

